ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
AIR QUALITY CONSTRUCTION PERMIT

Permit No. 0032-AC018 Issue Date: Final—April 26, 2001

The Department of Environmental Conservation (Department), under the authority of AS 46.03, AS 46.14, 6 AAC 50, 18 AAC 15, and 18 AAC 50, issues this Construction Permit to

The Permittee:

Cominco Alaska, Incorporated
P.O. Box 1230
Kotzebue, AK 99752

For the:

Red Dog Mine Facility
145 km northeast of Kotzebue, Alaska
UTM Coordinates Northing 7551 km, Easting 590 km Zone 3

In accordance with AS 46.14.130(a), this permit allows the Permittee to modify the facility in accordance with terms and conditions of this permit. This permit contains terms and conditions necessary to ensure that the Permittee will build and operate the facility in accordance with 18 AAC 50.315(e). Please note the facility is also subject to Air Quality Control Permit No. 9932-AC005 for the Production Rate Increase Project.

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John F. Kuterbach, Manager
Air Permits Program

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Section 1. General Permit Conditions

1. Except as revised or rescinded herein, or as superseded by a construction or operating permit issued after the effective date of this permit, the Permittee shall comply with the terms and conditions of Air Quality Control Permit to Operate No. 9332-AA003, as revised December 4, 1996 and Air Quality Control Construction Permit No. 9932-AC005, issued December 10, 1999. If permit terms and conditions listed in this permit conflict with those of Permit No. 9332-AA003 or Permit No. 9932-AC005, the Permittee shall comply with the terms and conditions listed herein.

2. For purposes of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of any standard in this permit, nothing in this permit precludes the use of any credible evidence of information, relevant to whether the facility would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed.

3. The Permittee must comply with each permit term and condition. Noncompliance constitutes a violation of AS 46.14, 18 AAC 50, and the Clean Air Act, except for those requirements designated as not federally-enforceable, and is grounds for:

a. an enforcement action,

b. permit termination, revocation and reissuance, or modification in accordance with AS 46.14.280, or

c. denial of an operating-permit renewal application.

4. It is not a defense in an enforcement action to claim that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with a permit term or condition.

5. Each permit term and condition is independent of the permit as a whole and remains valid regardless of a challenge to any other part of this permit.

6. Compliance with permit terms and conditions is considered to be compliance with those requirements that are:

a. included and specifically identified in the permit; or

b. determined in writing in the permit to be inapplicable.

7. The permit may be modified, reopened, revoked and reissued, or terminated for cause. A request by the Permittee for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any operating permit condition.

8. The permit does not convey any property rights of any sort, nor any exclusive privilege.

9. The Permittee shall allow an officer or employee of the Department or an inspector authorized by the Department, upon presentation of credentials and at reasonable times with the consent of the owner or operator, to:

a. enter upon the premises where a source subject to the operating permit is located or where records required by the permit are kept;

b. have access to and copy any records required by the permit;

c. inspect any facilities, equipment, practices, or operations regulated by or referenced in the permit; and

d. sample or monitor substances or parameters to assure compliance with the permit or other applicable requirements.[1]

[1] The inspector shall comply with applicable health and safety standards.

Section 2. Ambient Air Quality Standards and Maximum Allowable Ambient Concentrations

This permit contains terms and conditions to ensure that allowable emissions from the facility and associated growth will not cause an ambient concentration that exceeds the concentrations established in Table 6 of 18 AAC 50.310(d)(2) at any location that does not or would not meet the ambient air quality standard or maximum allowable ambient concentration.

10. Notification Requirement. The Permittee shall modify and operate the facility in accordance with the application and application supplements listed in Section 8 of this permit. Notwithstanding the regulations set forth in 18 AAC 50.300(h), the Permittee shall notify the Department, in accordance with the following condition, prior to:

10.1 installing a source at the facility that is not listed in Section 7 of this permit;

10.2 making a change to a source listed in Section 7 that would cause it to deviate from the description of it provided in Section 7; or

10.3 making a change to the emission characteristics of a source in a manner that would increase the ambient impact beyond that which the Department relied upon when issuing this permit.

11. Notification Procedure. The Permittee shall use the following procedures when notifying the Department pursuant to the previous condition:

11.1 For changes described by 18 AAC 50.370(a), notify the Department in accordance with 18 AAC 50.370(b). The Permittee may implement the changes in accordance with 18 AAC 50.370(c).

11.2 For all other changes not described by 18 AAC 50.300(h):

a. prior to making the change, consult with the Department on the need to perform an ambient air quality analysis of the proposed change;

b. after receiving a written request from the Department that an ambient air quality analysis is required, prepare and submit the analysis in accordance with the requirements set forth in the request; and

c. do not make the proposed change until receiving written concurrence from the Department that the change will not interfere with attainment or maintenance of ambient air quality standards and maximum allowable ambient concentrations.

12. Sulfur Dioxide Requirements. For all sources listed in Section 7 of this permit, the Permittee shall comply with the following requirements:

12.1 The sulfur content of fuel oil burned must not exceed 0.45 percent by weight at any time. For fuels purchased on or after December 10, 1999, the sulfur content of fuel oil must not exceed 0.16 percent by weight, over the most recent 12 consecutive months subsequent to the date the Permittee begins to burn reduced sulfur fuel.

12.2 For each calendar month, record the sulfur content of fuels that are burned in all of the sources listed in Section 7 of this permit in accordance with one of the following methods:

a. obtain a representative sample of fuels and determine the sulfur contents in accordance with ASTM standards; or

b. determine the sulfur content using data provided by a fuel supplier. When determining the sulfur content in this manner, ensure that the sulfur content is representative of the fuel delivery and is determined in accordance with ASTM standards. When fuel shipments are combined at the site, calculate the sulfur content of the combined fuel taking into account the density, volume, and sulfur content of each fuel shipment. Keep records of calculations performed to determine the sulfur content of combined shipments, and copies of fuel delivery receipts used in the calculations.

c. report the records required by this condition by submitting a copy of the records with the Facility Operating Report required by Condition 26 of Permit No. 9332-AA003.

13. Nitrogen Dioxide Requirements. The Permittee shall comply with the following requirements for Sources MG-1 through MG-6, MG-17[2] and MG-18:

13.1 Oxides of nitrogen emissions, expressed as NO_2, shall not exceed 3,878 tons in any 12 consecutive month period.

13.2 For each calendar month, record the hours of operation of each source.

13.3 For each calendar month, calculate and record the emissions from each source and the emissions from all sources during the most recent 12 consecutive month period. Use the following equation and emission factors to calculate the monthly NO_X emission rate, M, for each source. The Department, in its discretion, will adjust the emission factors based upon the results of source tests conducted according to the procedures specified in Section 5 of this permit. Upon receiving a written request or approval from the Department, the Permittee shall use the adjusted emission factors.

[2] Authorization for MG-17 is currently in dispute with the EPA pending resolution of the Ninth Circuit Court Case, Docket No. 00-70166. Permit No. 0032-AC018 authorizing the installation of MG-18 is independent of MG-17's authorization and the outcome of the pending court case.

M = Emission Factor x (hours of operation each month) x (1 ton/2000 lb)

Emission Factors:

Source MG-1 = 121.3 lbs/hour
Source MG-2 = 135.0 lbs/hour
Source MG-3 = 121.3 lbs/hour
Source MG-4 = 121.3 lbs/hour
Source MG-5 = 121.3 lbs/hour
Source MG-6 = 135.0 lbs/hour
Source MG-17 = 121.3 lbs/hour
Source MG-18 = 121.3 lbs/hour

13.4 Report the records required by this condition by submitting a copy of the records with the Facility Operating Report required by Condition 26 of Permit No. 9332-AA003.

14. Non-Road Engine Requirements. The Permittee shall comply with the following requirements:

14.1 Limit the hours of operation for Source MXG-100, portable rock crusher generator, to no greater than 3,000 hours at the Mine Site.

14.2 Operate up to four Cummins KTA50-G3 1,250 KW temporary diesel-fired generators until the earlier of either: a) May 2, 2001; or b) initial start-up of the first of MG-17[3] or MG-18.

14.3 Limit the hours of operation for each temporary generator to no greater than 2,190 hours. Operate the units only when one or more of units MG-1 through MG-6 is out of service.

14.4 For each calendar month, calculate and record the NO_X emissions from each temporary generator and the emissions from all temporary generators during the most recent 12 consecutive month period. Use the following equation to calculate the monthly NO_X emission rate, M, for each temporary generator:

M = (42.24 lbs/hour) x (hours of operation each month) x (1 ton/2000 lb)

14.5 Maintain operational records and report excess emissions to the Department to ensure compliance with Condition 14.3.

a. Maintain operational records (time, duration, and unit number) for MG-1 through MG-6, and all four temporary generators. Report the records required by this condition by submitting copies of the records with the Facility Operating Report required by Condition 26 of Permit No. 9332-AA003.

[3] Authorization for MG-17 is currently in dispute with the EPA pending resolution of the Ninth Circuit Court Case, Docket No. 00-70166. Permit No. 0032-AC018 authorizing the installation of MG-18 is independent to MG-17's authorization and the outcome of the pending court case.

b. Report to the Department, as provided in Condition 36, if any of the four temporary generators operate when all of MG-1 through MG-6 is in operation.

14.6 Notify the Department within 10 working days of when the temporary operation of each temporary generator has ceased. Report in the notice the total hours each engine operated, along with the total NO_X emissions from each engine.

14.7 Oxides of Nitrogen emissions from each temporary generator counts toward the 3,878 tons per 12-month rolling limit listed in Condition 13.1. Add the monthly emissions from the four temporary generators to the emissions from MG-1 through MG-17[4] and MG-18 during the most recent 12 consecutive month period as set out in Condition 13.3. Report the 12-month rolling total in the Facility Operating Report required by Condition 26 of Permit No. 9332-AA003 to ensure compliance with Condition 14.6.

15. Stack Parameter Requirements. The Permittee shall:

15.1 Not operate Sources MG-17[4] or MG-18 prior to making the following stack changes for Sources MG-1 through MG-6:

a. Locate and configure the exhaust stacks for Sources MG-1 through MG-6 as shown in Drawing D-6022-PD-001 of Cominco's July 13, 2000 permit application.

b. Construct the stacks for Sources MG-1 through MG-6 with exhaust outlets no less than 69 feet above grade.

15.2 After the federal district court decision on Docket No. 00-70166 is made and Cominco decides to proceed with installing MG-17[4], construct the stack for Source MG-17[4] with an exhaust outlet no less than 75 feet above grade.

15.3 Construct the stack for Source MG-18 with an exhaust outlet no less than 75 feet above grade.

15.4 Submit to the Department within 14 days after completion, As-Built engineering drawings and photographs of the exhaust stacks for Sources MG-1 through MG-6, MG-17[4] and MG-18 to ensure compliance with Conditions 15.1, 15.2, and 15.3.

[4] Authorization for MG-17 is currently in dispute with the EPA pending resolution of the Ninth Circuit Court Case, Docket No. 00-70166. Permit No. 0032-AC018 authorizing the installation of MG-18 is independent of MG-17's authorization and the outcome of the pending court case.

Section 3. Owner-Requested Limits

16. Limits to Avoid PSD for Carbon Monoxide. To avoid PSD review for carbon monoxide, the Permittee shall comply with the requirements in this condition to limit the facility's potential to emit.

16.1 Operate MG-18 only when one of MG-1 through MG-6 is not in operation.

16.2 Limit carbon monoxide emissions from Source MG-18 to no greater than 8.0 lb/hr, averaged over any three hours.

16.3 Maintain operational records and report excess emissions to the Department to ensure compliance with Condition 16.1.

a. Maintain operational records (time, duration, and unit number) for MG-1 through MG-6 and MG-18. Report the records required by this condition by submitting copies of the records with the Facility Operating Report required by Condition 26 of Permit No. 9332-AA003.

b. Report to the Department, as provided in Condition 36, if MG-18 operates when all of MG-1 through MG-6 are in operation.

16.4 Conduct source tests on Source MG-18 to determine compliance with the carbon monoxide emission limit in Condition 16.2. Use 40 CFR 60, Appendix A, Methods 1–4 to calculate the mass emission rate from the measured CO concentrations and report the results as set out in Section 5 of this permit. Tests must be conducted within 180 days after start-up. During the emissions source test, record the fuel consumption rate, engine speed, and electric power output no less than once every 15 minutes. Calculate and report the average for each parameter in the source test report.

17. Limits to Avoid PSD for Sulfur Dioxide. To avoid PSD review for sulfur dioxide, the Permittee shall comply with the requirements in this condition to limit the facility's potential to emit.

17.1 Operate as set out in Condition 16.1.

17.2 Provide information as set out in Condition 16.3.

17.3 For each calendar month, record the sulfur content of fuels that are burned in all of the sources listed in Section 7 of this permit in accordance with one of the following methods:

a. obtain a representative sample of fuels and determine the sulfur contents in accordance with ASTM standards; or

b. determine the sulfur content using data provided by a fuel supplier. When determining the sulfur content in this manner, ensure that the sulfur content is representative of the fuel delivery and is determined in accordance with ASTM standards. When fuel shipments are combined at the site, calculate the sulfur content of the combined fuel taking into account the density, volume, and sulfur content of each fuel shipment. Keep records of calculations performed to determine the sulfur content of combined shipments, and copies of fuel delivery receipts used in the calculations. Report the records required by this condition by submitting copies of the records with the Facility Operating Report required by Condition 26 of Permit No. 9332-AA003.

18. Limits to Avoid PSD for Oxides of Nitrogen. To avoid PSD review for oxides of nitrogen, the Permittee shall comply with the requirements of this section to limit the facility's potential to emit.

18.1 Operate as set out in Condition 16.1.

18.2 For MG-18, limit NO_X emissions to no greater than 121.3 lbs/hour.

18.3 Provide information as set out in Condition 16.3.

18.4 Within 6 months after startup, conduct source tests to determine compliance with the NO_X emission limit in Condition 18.2. Use 40 CFR 60, Appendix A, Methods 1–4 to calculate the mass emission rate from the measured NO_X concentrations and report the results in accordance with the requirements set forth in Section 5 of this permit. During the emissions source test, record the fuel consumption rate, engine speed, and electric power output no less than once every 15 minutes. Calculate and report the average for each parameter in the source test report.

19. Limit to Avoid PSD for Particulate Matter. To avoid PSD review for particulate matter, the Permittee shall comply with the requirements in this condition to limit the facility's potential to emit.

19.1 Operate as set out in Condition 16.1.

19.2 Limit particulate emissions from Source MG-18 to no greater than 2.6 lb/hr, averaged over three hours.

19.3 Maintain records and report as set out in Condition 16.3.

19.4 Conduct source tests on Source MG-18 to determine compliance with the particulate matter emission limit in Condition 19.2 and report the results as set out in Section 5 of this permit. Tests must be conducted within 180 days after initial start-up. During the emissions source test, record the fuel consumption rate, engine speed, and electric power output no less than once every 15 minutes. Calculate and report the average for each parameter in the source test report.

Section 4. State Implementation Plan Emission Standards

20. Industrial Processes and Fuel-Burning Equipment, Source MG-18.

20.1 The Permittee shall not cause visible emissions, excluding condensed water vapor, to reduce visibility in the exhaust effluent by more than 20% for a total of three minutes in any one hour.

20.2 The Permittee shall not cause particulate matter emissions to exceed 0.05 grains/dscf, corrected to standard conditions average over any three hours.

20.3 The Permittee shall not cause sulfur compound emissions, expressed as sulfur dioxide, to exceed 500 ppm average over a period of any three hours.

20.4 For Source MG-18:

a. No less than once each calendar quarter during which MG-18 operates, the Permittee shall conduct source testing on MG-18 to determine compliance with visible emission standards in accordance with the procedures set out in Section 5 of this permit. Attach a copy of the surveillance records required by this condition to the Facility Operating Report required by Condition 26 of Permit No. 9332-AA003.

b. For MG-18 conduct source testing within 180 days after initial start-up. The Permittee may determine compliance with the particulate matter emission limit in this condition at the same time the Permittee determines compliance with the particulate matter emission limit set forth in Condition 19 of this permit.

21. Air Pollution Prohibited. The Permittee shall not cause any emission which is injurious to human health or welfare, animal or plant life, or property, or which would unreasonably interfere with the enjoyment of life or property.

21.1 Within 24 hours of receiving a complaint that is attributable to emissions from MG-18, investigate the complaint and take corrective actions to alleviate or eliminate the cause of the complaint.

21.2 Keep records of the date, time, and nature of all complaints received and summary of the investigation and corrective actions undertaken for complaints attributable to emissions from MG-18. Upon request of the Department, submit copies of the records.

22. Dilution. The Permittee shall not dilute emissions with air to comply with this permit. At least once each year, check all ductwork and exhaust systems for leaks. Within seven days of discovering a leak or hole that would appreciably dilute emissions, conduct repairs to eliminate dilution. Keep records of all inspections and repairs performed under this condition. Upon request of the Department, submit copies of the records.

23. Good Air Pollution Control Practice. At all times, including startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate sources listed in Section 7 including associated air pollution control equipment regulated by this permit in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance practices are being used is based on information available to the Department which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspections of the facility. In addition, the Permittee shall comply with the following limitations:

23.1 Develop and provide training at the facility to orient each power plant operator regarding the applicable terms and conditions of this permit. Maintain a log of the time, date, place, and list of attendees for each training session, and a copy of the materials presented in the training sessions.

23.2 Develop and implement standard operation and maintenance procedures for each source listed in Section 7 of this permit. Keep a copy of the procedures available at a location within the facility that is readily accessible to operators of the sources and to authorized representatives of the Department.

23.3 Keep a copy of this permit, the State Air Quality Control Regulations, 18 AAC 50, and Alaska Statutes AS 46.14, on file at the facility.

24. The Permittee shall obtain permit or permit revisions required by AS 46.14 or 18 AAC 50 before constructing or modifying a source. The Permittee shall not construct, operate, or modify a source that will result in a violation of the applicable emission standards or that will interfere with the attainment or maintenance of the ambient air quality standards or maximum allowable ambient concentrations. Keep records of all activities undertaken to construct or modify a source in a manner that would require a permit or permit revisions and any permits, revisions, or approvals obtained as a result of such activities. Upon request of the Department, submit copies of the records.

Section 5. General Source Testing and Monitoring Requirements

25. Reference Test Methods. The Permittee shall use the following as reference test methods when conducting source testing as requested by the Department and this permit:

25.1 Source testing for compliance with requirements adopted by reference in 18 AAC 50.040(a) must be conducted in accordance with the methods and procedures specified in 40 CFR 60.

25.2 Source testing for compliance with requirements adopted by reference in 18 AAC 50.040(b) must be conducted in accordance with the methods and procedures specified in 40 CFR 61.

25.3 Source testing for emissions of particulate matter, sulfur compounds, nitrogen compounds, carbon monoxide, lead, volatile organic compounds, fluorides, sulfuric acid mist, municipal waste combustor organics, metals, and acid gases must be conducted in accordance with the methods and procedures specified 40 CFR 60, Appendix A.

25.4 Source testing for emissions of PM-10 must be conducted in accordance with the procedures specified in 40 CFR 51, Appendix M.

25.5 Source testing for the reduction in visibility through the exhaust effluent must be conducted in accordance with the procedures set out in Section 9 of this permit.

25.6 Source testing for emissions of any contaminant may be determined using an alternative method approved by the Department in accordance with Method 301 in Appendix A to 40 CFR 63.

26. Test Plans. Within 60 days after receiving a request from the Department to conduct tests and at least 30 days before the scheduled date of any tests, the Permittee shall submit a complete plan for conducting the source tests to the Department for approval. The plan must address the methods and procedures to be used for sampling, testing, and quality assurance, and the operational conditions under which the tests will be performed and documented.

27. Alternate Test Plans. To the extent allowed by applicable requirements, the Permittee may propose an alternative test method if it can be shown to be of equivalent accuracy, and will ensure compliance with the applicable standards or limits. Until the Department approves an alternative test method requirement, the Permittee shall comply with the requirements listed in this permit.

28. Test Notification. The Permittee shall give the Department written notice of all source tests at least 10 days before conducting the tests.

29. Test Reports. Within 45 days after completion of a set of tests, the Permittee shall submit two copies of the results, to the extent practical, in the format set out in the *Source Test Report Outline* of Volume III, Section IV.3, of the State Air Quality Control Plan, adopted by reference in 18 AAC 50.030(8). The Permittee shall certify the results as set out in condition 32 of this permit.

30. Operating Conditions. Unless otherwise specified by an applicable requirement or test method, the Permittee shall conduct source testing:

30.1 At a point or points that characterize the actual discharge into the ambient air; and

30.2 At the maximum rated burning or operating capacity of the source or another rate determined by the Department to characterize the actual discharge into the ambient air.

31. Excess Air Requirements. To determine compliance with this permit, standard exhaust gas volumes must only include the volume of gases formed from the theoretical combustion of fuel, plus the excess air volume normal for the specific source type, corrected to standard conditions (dry gas at 70° F and an absolute pressure of 760 millimeters of mercury).

Section 6. General Record Keeping and Reporting Requirements

32. Certification. The Permittee shall certify all reports, compliance certifications, or other documents submitted to the Department under this permit in accordance with the requirements set forth in 18 AAC 50.205. All reports must be certified upon submittal, except the reports submitted pursuant to Condition 36 during a six-month reporting period may be certified with the operating report required by Condition 26 of Permit No. 9332-AA003 for that same six-month reporting period.

33. Submittals. Unless otherwise directed by the Department or this permit, the Permittee shall send reports, compliance certifications, and other information required by this permit to ADEC, Air Permits Program, 610 University Ave., Fairbanks, AK 99709-3643, ATTN: Compliance Technician.

34. Information Requests. The Permittee shall furnish to the Department, within a reasonable time, any information the Department requests in writing to determine whether cause exists to modify, revoke and reissue, or terminate the permit or to determine compliance with the permit. Upon request, the Permittee shall furnish to the Department copies of records required to be kept by this permit. The Department, in its discretion, will require the Permittee to furnish copies of those records directly to the federal administrator.

35. Record Keeping Requirements. The Permittee shall keep all records required by this permit for at least five years after the date of collection, including:

35.1 Copies of all reports and certifications submitted pursuant to this permit.

35.2 Records of all monitoring required by this permit, and information about the monitoring including:

a. calibration and maintenance records, original strip-chart or computer-based recordings for continuous monitoring instrumentation;

b. sampling dates and times of sampling and measurements;

c. the operating conditions that existed at the time of sampling or measurement;

d. the date analyses were performed;

e. the location where samples were taken;

f. the company or entity that performed the sampling and analyses;

g. the analytical techniques or methods used in the analyses; and

h. the results of the analyses.

36. Excess Emission Reports. The Permittee shall report all emissions or operations that exceed or deviate from the requirements of this permit or present a potential threat to human health or safety as soon as possible, but no later than 48 hours, after the event commences. Report in accordance with Section 10 of this permit.

Section 7. Sources Regulated by this Permit

I. EMISSION SOURCES

A. Point Sources

Source #	Equipment Use/Location	Description	Maximum Operation (hrs/yr)	Nominal Design Capacity	Nominal Design Fuel Rate (gph)	Fuel Type
Source Group: Generators						
MG-18	Backup Power Generation - Mill	Wartsila 16V32 #8	0(1)	5,000 KW	302.7	Diesel
MXG-100	Rock Crusher Generator	Caterpillar 3508 STD	3,000	850 KW	N/A	Diesel

Notes: (1) MG-18 will only operate if one of MG-1 through MG-6 is not in operation.

Section 8. Permit Application Documentation

April 30, 2000	Cominco Request for Approval of Three Non-Road Engines.
May 2, 2000	ADEC Response to April 30, 2000 Cominco Request to operate three emergency engines.
July 13, 2000	Construction Permit Application for the MG-18 Project.
July 31, 2000	ADEC approval of new NO_X emission factors for Cominco Red Dog Mine.
August 4, 2000	ADEC Response to July 13, 2000 Cominco Request to relocate MG-17.
August 16, 2000	ADEC Response to July 13, 2000 Cominco Request to extend the operation of three emergency engines.
August 18, 2000	ADEC Request for more information.
September 25, 2000	Cominco Ambient Air Quality Analysis for the Request to operate a fourth emergency engine.
November 13, 2000	Cominco Response to August 18, 2000 ADEC Request for additional information regarding MG-18.
December 4, 2000	Alaska Coastal Project Questionnaire and Certification Statement.
December 6, 2000	ADEC Response to November 13, 2000 Cominco meteorological data and ambient impacts of the MG-18 project.
February 27, 2001	ADEC approval of new NO_X emission factors for Cominco Red Dog Mine.
March 14, 2001	Cominco letter providing history of MG-18 project and status in relation to the PRI project.
April 3, 2001	Cominco MG-18 permit meeting notes for Ex Parte conference.
April 5, 2001	Hoefler Consulting group actual to allowable emission calculations.
April 9, 2001	Cominco Timeline Summary of Events Related to Air Construction Permitting at the Red Dog Mine.
April 11, 2001	Cominco fax to ADEC including Appropriation Requisitions dated December 3, 1999 and February 10, 2000.

April 12, 2001	Document certifying the Red Dog Mill Optimization Resolution document of the Executive Committee of the Board of Directors of Cominco Ltd. passed February 4, 2000.
April 16, 2001	Cominco letter to ADEC discussing the PRI and MOP status, Received by ADEC April 17, 2001.
April 17, 2001	Cominco revision to their April 16, 2001 letter discussing the PRI and MOP status, Received by ADEC April 18, 2001.
April 20, 2001	ADEC Response to Comments received on the preliminary MG-18 decision.

Section 9. Visible Emission Evaluation Procedures

An observer qualified according to 40 CFR 60, RM 9, shall use as the reference method the following procedures to determine the reduction of visibility through the exhaust effluent.

Position. The qualified observer shall stand at a distance sufficient to provide a clear view of the emissions with the sun oriented in the 140° sector to the observer's back.[5] Consistent with maintaining the above requirement, the observer shall, as much as possible, make his observations from a position such that his line of vision is approximately perpendicular to the plume direction and, when observing opacity of emissions from rectangular outlets (e.g., roof monitors, open baghouses, noncircular stacks), approximately perpendicular to the longer axis of the outlet. The observer's line of sight should not include more than one plume at a time when multiple stacks are involved, and in any case the observer should make observations with their line of sight perpendicular to the longer axis of such a set of multiple stacks (e.g., stub stacks on baghouses).

Field Records. The observer shall record the name of the plant, emission location, facility type, observer's name and affiliation, and the date on the *Visible Emissions Field Data Sheet* The time, estimated distance to the emission location, approximate wind direction, estimated wind speed, description of the sky condition (presence and color of clouds), and plume background are recorded on the sheet at the time opacity readings are initiated and completed.

Observations. Opacity observations shall be made at the point of greatest opacity in that portion of the plume where condensed water vapor is not present. The observer shall not look continuously at the plume, but instead shall observe the plume momentarily at 15-second intervals.

Attached Steam Plumes. When condensed water vapor is present within the plume as it emerges from the emission outlet, opacity observations shall be made beyond the point in the plume at which condensed water vapor is no longer visible. The observer shall record the approximate distance from the emission outlet to the point in the plume at which the observations are made.

Detached Steam Plume. When water vapor in the plume condenses and becomes visible at a distinct distance from the emission outlet, the opacity of emissions should be evaluated at the emission outlet prior to the condensation of water vapor and the formation of the steam plume.

Recording Observations. Opacity observations shall be recorded to the nearest 5 percent at 15-second intervals on the Visible Emissions Observation Record contained in this section. A minimum of 48 observations shall be recorded. Each momentary observation recorded shall be deemed to represent the average opacity of emissions for a 15-second period.

Data Reduction. For compliance with a time-aggregation visible emission standard set out in this permit, count the number of readings that exceed 20 percent opacity and record this number on the sheet.

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[5] The Department acknowledges that in mid-winter, Power Plant visible emission evaluations may not comp ort with the same angle orientation. The Permittee shall, to the extent practical, conduct evaluations of visible surveillance for the 1st and 4th quarters at other than mid-winter.

For compliance with a time-averaging visible emission standard set out in this permit, divide the observations recorded on the record sheet into sets of 24 consecutive observations. A set is composed of any 24 consecutive observations. Sets need not be consecutive in time and in no case shall two sets overlap. For each set of 24 observations, calculate the average by summing the opacity of the 24 observations and dividing this sum by 24. If an applicable standard specifies an averaging time requiring more than 24 observations, calculate the average for all observations made during the specified time period. Record the average opacity on the sheet.

Visible Emissions Field Data Sheet

When doing readings: Maintain a distance of at least 15 feet from the emission point; When possible while still conforming to Method 9, select a position to minimize interference between sources; If interference cannot be avoided between sources, use the least stringent opacity standard that applies to any of the sources involved; and If wet dust suppression is used, read the part of the plume where there are no visible emissions caused by water mist.

Certified Observer_____

Company _____

Location _____

Test No. _____ Date

Source _____

Production Rate: _____

Hrs. of observation: _____

Clock Time	Initial			Final
Observer location Distance to discharge				
Direction from discharge				
Height of observer point				
Background description				
Weather conditions Wind Direction				
Wind speed				
Ambient Temperature				
Relative humidity				
Sky conditions: (clear, overcast, % clouds, etc.)				
Plume description: Color				
Distance visible				
Water droplet plume? (attached or detached?)				
Other information				

Visible Emissions Observation Record

Page ___ of ___

Company _____ Certified Observer_____

Test Number _____ Clock time_____
A minimum reading is 24, every 15 seconds for a total length of 6 minutes

Date:		Visibility reduction every 15 Seconds (Opacity)				Steam Plume (check if applicable)		Comments
Hr	Min	0	15	30	45	Attached	Detached	

Additional information:

_____
Observer Signature

Data Reduction:
Number of Readings exceeding 20%_____
Average Opacity Summary

Set Number	Time Start—End	Opacity	
		Sum	Average

Section 10. Excess Emission Notification Form

Report by completing and faxing this form to**: (907) 269-7508**, or telephone: (907) 269-8888

Name of Permittee

Facility Name

1. Event Information (Use 24-hour clock):

Date	END Time	START Time	Duration (hr:min):
/ /	:	:	:
/ /	:	:	:
		Total	:

2. Cause of Event (Check all that apply):

❑ START UP ❑ UPSET CONDITION ❑ CONTROL EQUIPMENT
❑ SHUT DOWN ❑ SCHEDULED MAINTENANCE ❑ OTHER _____
❑ MONITOR MALFUNCTION

Provide a detailed description of what happened. Attach additional sheets as necessary.

3. Sources Involved:

Identify each Emission Source involved in the event, using the same identification number and name as in the Permit. List any Control Device or Monitoring System affected by the event. Attach additional sheets as necessary.

Source ID No.	Source Name	Description	Control Device

4. Emission Standard Exceeded:

Identify each Emission Standard and Permit Condition exceeded during the event. Describe in detail, the extent to which each Standard or Condition was exceeded. List ALL known or suspected injuries or health impacts. Attach additional sheets as necessary.

Standard or Condition	Limit	Exceedence

5. Emission Reduction:

Describe in detail, ALL of the measures taken to minimize and/or control emissions during the event. Attach additional sheets as necessary.

6. Corrective Actions:

Describe in detail, ALL of the corrective actions taken to restore the system to normal operation. Attach additional sheets as necessary.

Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are true, accurate, and complete.

Printed Name

Signature Date

Sheet ___ of ___ Sheets